

REMARKS

Claims 1-15 and 17-21 are pending in the application. Claims 1-3, 7, 14, 15, 17-19 and 21 stand rejected, and claims 4-6, 8-13 and 20 stand objected to.

Specification

The Examiner has objected that the specification of the application does not contain any of the section headings listed in 37 C.F.R. 1.77(b). Applicant has amended the specification to contain descriptive headings, as detailed on page 2 herein. Applicant further respectfully draws the Examiner's attention to 37 C.F.R. 1.77(c) wherein applicants are instructed that the "text of the specification sections defined in paragraphs (b)(1) through (b)(11) of this section, if applicable, should be preceded by a section heading in uppercase and without underlining or bold type." (emphasis added) There is nothing in 37 C.F.R. 1.77 mandating use of all of the section headings, as alleged by the Examiner, nor of the particular section headings listed by the Examiner. Similarly, MPEP section 608.01(a) clearly states that use of these headings is preferable, not required. Applicant thus declines to add headings that are not applicable to the present specification.

Rejection under 35 U.S.C §102

Claims 1, 3, 7, 14-15, 17-19 and 21 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,675,672 to Nakabayashi. In particular, the Examiner finds that, with regard to claim 1, Nakabayashi discloses all of the claimed limitations. Applicant has reviewed the reference with care, paying particular attention to the passages cited, and is compelled to respectfully disagree with the Examiner's characterization of this reference.

Claim 1 is directed to an image capture apparatus that includes "an image detecting device adapted to capture a set of sub-images or tiles corresponding to different areas of a document at known locations." The Examiner alleges that this feature is disclosed by Nakabayashi at column 6, lines 12-14, and in Figure 4, stating that the "recognize 3023 character" of Nakabayashi corresponds to the claimed "known locations" limitation. The

Examiner invokes a statement in Applicant's specification on page 30, lines 9-10, that "the relative location of each file to its adjacent lines is known" in support of his interpretation. Applicant erstwhile notes that this statement is actually found on page 28 of the specification, and further submits that the Examiner's interpretation of the Nakabayashi reference is incorrect. A fundamental difference between Applicant's invention and the disclosure of Nakabayashi is that Nakabayashi is directed to a hand-held scanning device whereas Applicant's invention is directed to an apparatus that captures images at fixed, or known locations. Nakabayashi very clearly states that his invention does not employ such fixed or known locations:

The operation of the OCR 12, as shown in FIG. 2, begins by inputting video or image data from either a first scan 28 or a second scan 30 of a document 32 such that the first scan 28 is coordinate independent of the second scan 30. In other words, the first scan 28 and second scan 30 are not referenced to a common absolute coordinate system, generally resulting from scanning using dedicated scanning devices, but would each have a separate individual coordinate system.

Column 3, line 62 to column 4, line 3 (emphasis added). Nakabayashi thus very clearly teaches away from dedicated scanning devices such as Applicant's claimed device, and distinguishes his invention from such dedicated devices based upon the different approach to capturing images.

Applicant's device is clearly different. For instance, the specification at page 20, line 13, teaches that the "control unit instructs the actuator 7 to move the field of view of the camera 2 across the document in a pre-set pattern." And at page 21, lines 23-30, the specification teaches that the "control unit calculates in advance how many steps the motor must take to move across the document from the area of one sub-image to the next. By taking the sub-images in this manner in co-ordination with the scanning of the camera ensures that each sub-image corresponds to a known area of the document and that each sub-image has a known overlap portion which overlaps with another known overlap position of an adjacent, known, sub-image."

The specification thus makes abundantly clear that the "known locations" limitation of claim 1 refers to a predetermined, machine-controlled, coordinate system.

The statement on page 28 of the specification that was cited by the Examiner actually supports this argument, as it states that "the relative location of each file to its adjacent lines is known." In contrast, in the system of Nakabayashi the relative location of each scan with respect to the other scans is not known:

In other words, both rows and columns of coded characters will be stored in the order or sequence as the original characters appeared to the scanner without the need for identifying the coordinates of where the original characters in the image data appeared and without the first scan 28 being coordinate dependent with the second scan 30. Stated another way, the first scan 28 and the second scan 30 do not have to be referenced back to a common absolute coordinate system (see block 48). That way, edge information (top, bottom, left and right) of each scan 28 and 30 is retained for use in rejoining the files in the first memory 14 and the second memory 16, independent of the coordinates of the coded characters.

Column 4, lines 45-58. Thus, the Examiner's assertion that overlapping portions such as illustrated by the text "recognize 3023 character" in files 82 and 84 of Figure 4 correspond to the "known locations" limitation of claim 1 is contrary to the very language of Nakabayashi. As clearly stated in the above quote, Nakabayashi employs "edge information" to rejoin the tiles or sub-images in memory "independent of the coordinates of the coded characters."

Furthermore, the process of matching such as matching files 82 and 84 is performed on actual ASCII characters that have been identified through an optical character recognition (OCR) process:

After the preprocessing of block 36 is performed on the image data 34, normalized data of each character is generated in block 38, as indicated above. At block 40, feature extraction is performed on each normalized character by the OCR 12 to generate a digital signal which represents the character that has been extracted. Each digital signal which represents a character is then identified at block 42 by utilizing a dictionary 46 which matches the digital signal to the hexadecimal ASCII code representing that character. The coded ASCII representation of each character is then put in the order as it appears as a character, in block 48, independent or without the specific coordinates of where the characters appeared in the original image data 34.

Column 4, lines 21-33. Thus, the matching process of Nakabayashi has nothing to do with the location, known or otherwise, of the characters or of the sub-images, but is rather directed to a character-by-character matching process, "independent of where the characters appeared in the original image." In contrast, claim 1 includes a processor with an OCR sub-routine "which is adapted to produce a first set of processable data files which each comprise a data set of characters corresponding to characters appearing in a respective sub-image in the set and the relative location of the characters in that sub-image."

In light of the above, Applicant respectfully submits that claim 1 is in fact patentable over Nakabayashi. Claims 3, 7, and 14-15 depend directly or indirectly from claim 1, and it therefore submitted that these claims are also novel over Nakabayashi.

Claim 17 is directed to a method of creating a machine readable text document that includes the step of "capturing an image of a document being scanned by capturing a plurality of sub-images or tiles which correspond to known regions of a document." As previously discussed in great detail with respect to claim 1, there is not disclosure or allusion in Nakabayashi of

capturing sub-images at known locations. Applicant therefore submits that for all of the above reasons, Nakabayashi does not anticipate claim 17 nor claims 18 and 19 dependent therefrom.

Similarly, claim 21 is directed to a computer readable medium with a program recorded therein that is adapted to "receive as input a document image captured as a plurality of sub-images or tiles which correspond to known regions of a document." Thus, the above arguments regarding the "known regions" limitation are equally applicable to claim 21.

Rejection under 35 U.S.C §103

Claim 2 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Nakabayashi. Without addressing the Examiner's comments, Applicant notes that claim 2 is dependent from claim 1, which has been shown above to be novel over Nakabayashi. Thus, Applicant submits that claim 2 is also novel and patentable over Nakabayashi.

Applicant acknowledges with gratitude the Examiner's indication of allowability as to claims 4-6, 8-13 and 20. However, as explained previously, Applicant is of the firm belief that all claims currently pending in front of the Examiner are allowable, and respectfully urges the Examiner to pass this case to issue.

Regarding the prior art made of record by the Examiner but not relied upon, Applicant believes that this art does not render the pending claims unpatentable.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

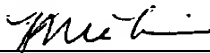
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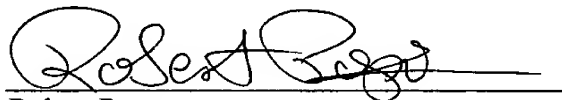


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